FY05-LI(51)-129

Lignite Coal Test at a Transport Reactor Gasification Facility in Wilsonville, AL

Contractor: Basin Electric Power Cooperative; Duration: 18 months
Principal Investigator: Michael Paul

PARTICIPANTS

Sponsor	Cost Share
Basin Electric Power Cooperative	$12,143
Great River Energy	$12,143
Ottertail Power Cooperative	$12,143
Montana Dakota Utilities	$12,143
Great Northern Power Development	$12,143
SaskPower	$12,143
Dakota Westmoreland Corp.	$10,000
BNI Coal, Ltd	$10,000
Falkirk Mining	$ 5,000
Coteau Mining	$ 15,000
NDIC	$125,000
Total Cost	$250,000

Project Schedule - 18 Months

Contract Date – 7/1/04
Start Date – 7/1/04
Completion Date – ~~12/31/05~~
Extended to 12/31/07

Project Deliverables

Contract Signed: 8/10/04✓
Quarterly Reports:
12/31/04(✓);6/1/06( );
Final Report 12/31/07( );

OBJECTIVE / STATEMENT OF WORK:

Conduct short & long-term tests using an advanced IGCC Clean Coal Technology gasification system, Transport Reactor Integrated Reactor (TRIG), at the DOE facility in Wilsonville, AL. Project will ship 700 tons & 3,000 tons of lignite to the PSDF to resolve high-sodium lignite issues, followed by a 1000 hour pre-commercial test.

STATUS

July – December, 2004 Status Report. Previous tests using a low sodium Falkirk mine lignite demonstrated that good gasification could be achieved using the TRIG reactor. Recent tests using a high-sodium (8%) lignite identified downstream agglomeration in the reactor's loop seal area. Subsequent tests (TC16) were focused on eliminating the agglomeration issues and identified a temperature regime that operated trouble free. A long-term 500 hr test is scheduled for August, 2005 to verify the previous successful test.

A long-term lignite 1,000 hr test has been delayed to 2007. The delay is due to TRIG modifications for future lignite tests to increase throughput and minimize unburned carbon. The modifications will support Southern Company Service's efforts to design, construct and operate a full-scale commercial TRIG-based IGCC in support of a recently awarded DOE Clean Coal Technology contract, and ensure applicability to lignite gasification for power generation.